Exhibit D

Supplemental Data

Supplemental Materials and Methods

Fibers from an explanted polypropylene (PP) mid-urethral sling (MUS) not previously fixed in formalin were received Dr. Vladimir Iakovlev at St. Mary's Hospital (Toronto, Ontario, Canada). Fibers were supplied in numbered and sealed micro centrifuge tubes. A total of ten fibers were analyzed. Five fibers (numbered 5, 8, 23, 24, and 31) had been mechanically scraped by Dr. Iakovlev to remove tissue from the fiber surface. Another five fibers (numbered 3, 9, 11, 14, and 17) had not been scraped. Two areas were analyzed on the untreated fibers: (1) a region that appeared residue-free, and (2) a region that showed residual material. Fibers that had been cleaned were visually free of residual material, and therefore only one region of interest was examined on these fibers. Due to the small size of the fibers, no more than two independent regions could be reliably analyzed.

XPS analyses were performed in a PHI Versaprobe using Al kα x-rays (1486 eV). A 20-μm diameter x-ray spot was rastered across the analysis area, and a take-off angle of 45 degrees off sample normal was used. Pass energies of 187.7 eV and 23.5 eV were used for the low- and high resolution acquisitions, respectively. Charge neutralization was accomplished using 1.1 eV electrons and 10 eV Ar_+ ions. The energy scales of the high-resolution spectra were calibrated to place -CH2- bonding in the carbon 1s spectrum at 284.8 eV. Relative atomic concentrations were calculated using peak areas and handbook sensitivity factors. Resulting concentrations have high precision, and therefore can be used to qualitatively compare samples collected under similar conditions.

Supplemental Results

Images of fibers. Supplemental Figure 1 shows an x-ray induced secondary electron micrograph showing the area analyzed on each sample. The area indicated on the Untreated samples is that of the residue-free area. The Scraped fibers were rougher than the Untreated fibers. Therefore, the XPS analysis volume on scraped fibers included material from deeper into the fiber

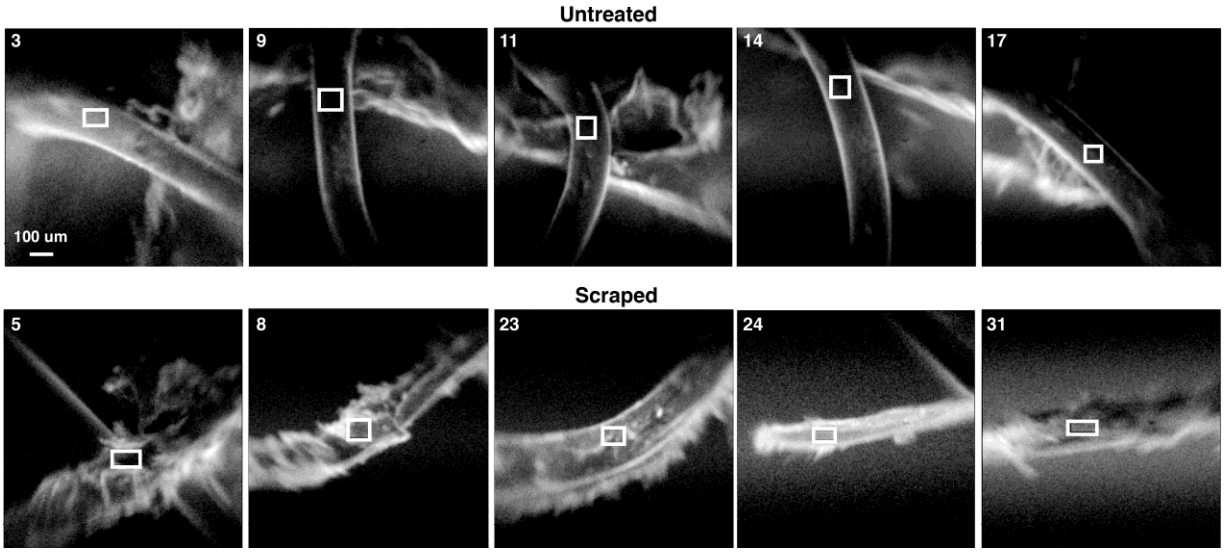

Figure S1. X-ray-induced secondary electron micrographs of the area analyzed on each fiber.

compared to fibers that had not been scraped. X-ray induced secondary electron micrographs images are not as well-defined as those obtained in an SEM because the primary x-ray beam is much larger than the electron beam used in an SEM. However, the imaging capability of this instrument enables us to define analysis areas which contain only the material of interest, which facilitates accurate interpretation of the acquired data.

Survey spectra and surface composition. A survey spectrum was collected from each fiber analyzed. Carbon, oxygen, nitrogen, and silicon were present to different degrees on all samples. Fiber number 5, which had been scraped, also contained a small amount of chlorine. Tables I and II summarize the elemental compositions determined for the Untreated and Scraped fibers, respectively. A one-way ANOVA testing the effects of surface treatment on surface chemistry found no significant ($\alpha < 0.05$) difference in atomic percents, atomic ratios, or C1s binding

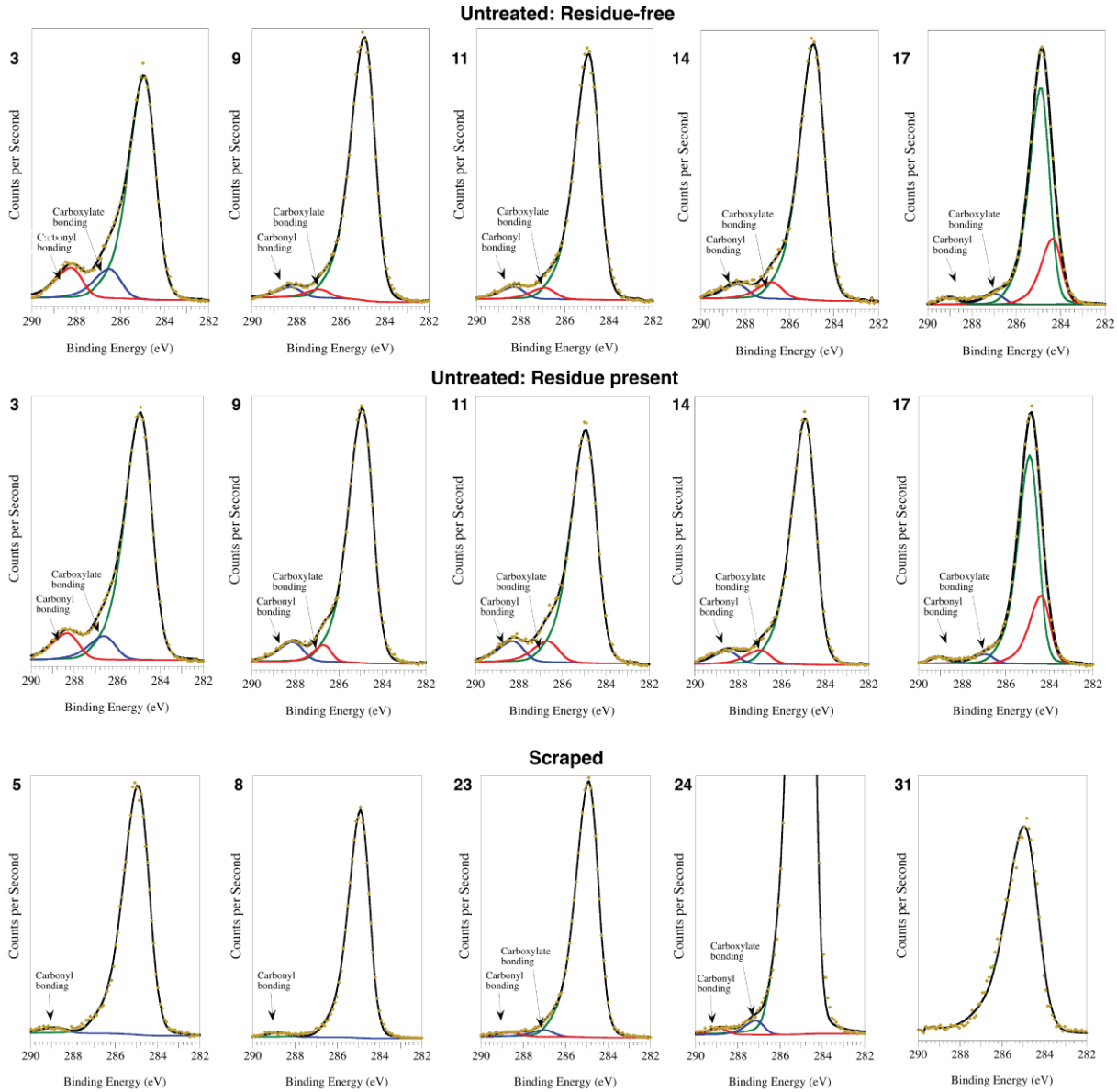

Figure S2. Survey spectra for the area analyzed on each fiber.

between residue-free and residue-present areas on the Untreated fibers. However, scraping resulted in significant differences in atomic percents, atomic ratios, and C1s bonding (Figure 4 of the manuscript). Figure S2 shows the high-resolution carbon 1s spectrum from Untreated (residue-free), Untreated (residue present), and Scraped fibers. The atomic% of carbon (C), oxygen (O), nitrogen (N), silica (Si), and chlorine (Cl) are listed in Tables S1-3.

Table S1. Summary of atomic composition of Untreated fibers (residue-free areas).

	Atomic %				
Fiber #	C	O	N	Si	Cl
3	72.7	17.7	9.5	0	0
9	84.3	11.1	4.6	0	0
11	78.3	14.4	4.2	3.0	0
14	78.2	15.7	4.3	1.7	0
17	87.4	9.7	1.1	1.8	0
Mean ± SD	80.2 ± 5.8	13.7 ± 3.3	4.7 ± 3.0	1.3 ± 1.3	0 ± 0

Table S2. Summary of atomic composition of Untreated fibers (areas with residue).

	Atomic %				
Fiber #	C	O	N	Si	Cl
3	77.5	14.2	8.3	0	0
9	81.5	13.1	5.4	0	0
11	74.9	17.3	5.4	2.4	0
14	82.9	12.6	3.9	0.6	0
17	87.7	10.3	0.0	2.0	0
Mean ± SD	80.9 ± 4.9	13.5 ± 2.6	4.6 ± 3.0	1.0 ± 1.1	0 ± 0

Table S3. Summary of atomic composition of Scraped fibers.

	Atomic %				
Fiber #	C	O	N	Si	Cl
5	93.9	6.9	0.0	0	0.2
8	93.5	5.9	0.0	0.6	0
23	93.1	5.5	0.4	1.0	0
24	97.4	2.4	0.0	0.2	0
31	96.6	3.4	0.0	0.0	0
Mean ± SD	94.9 ± 2.0	4.8 ± 1.9	0.1 ± 0.2	0.4 ± 0.4	0.1 ± 0.1

Analysis of carbon bonding. Spectra were curve-fitted to extract the contributions of different carbon bonding configurations present in the analysis area. All fibers that were not scraped exhibited some fraction of the carbon present bonded in carbonyl and carboxylate configurations. Two Scraped fibers (numbers 5 and 8) showed some carbonyl type bonding, while Scraped fibers numbered 23 and 24 contain both carbonyl and carboxylate type bonding. Figure S2 includes a spectrum of fiber 24 with an expanded y-axis to highlight the carbonyl and

carboxylate contributions to the carbon spectrum. The C1s spectrum from Scraped fiber number 31 shows no carbonyl nor carboxylate type bonding on this sample. Tables S4 – S6 summarize the percent of C1s bonding configurations present on each Untreated (residue-free and residue-present) and Scraped fibers, respectively.

Table S4. Summary of relative amounts (%) of the various C 1s bonding configurations present on the residue-free areas of Untreated fibers.

Fiber #	≈288 eV C=O	≈287 eV R-C*COOH	≈284.8 eV -CH	≈284.3 eV
3	10.6	10.3	78.9	ND
9	3.7	7.9	93.2	ND
11	4.5	4.2	91.3	ND
14	5.0	5.8	89.2	ND
17	1.9	3.5	72.6	21.9
Mean ± SD	5.1 ± 3.3	6.3 ± 2.8	85.0 ± 8.9	4.4 ± 9.8

Table S5. Summary of relative amounts (%) of the various C 1s bonding configurations present on the residue-present areas of Untreated fibers.

Fiber #	≈288 eV C=O	≈287 eV R-C*COOH	≈284.8 eV -CH	≈284.3 eV
3	8.9	6.9	83.2	ND
9	6.9	3.0	88.9	ND
11	7.6	7.7	84.7	ND
14	4.8	5.2	90.0	ND
17	1.8	3.2	71.6	23.5
Mean ± SD	6.0 ± 2.8	5.2 ± 2.1	83.7 ± 7.3	4.7 ± 10.5

Table S6. Summary of relative amounts (%) of the various C 1s bonding configurations present on Scraped fibers.

Fiber #	≈288 eV C=O	≈287 eV R-C*COOH	≈284.8 eV -CH	≈284.3 eV
5	ND	2.5	97.5	ND
8	ND	2.3	97.7	0.6
23	1.5	2.6	95.9	1.0
24	0.4	1.2	98.4	0.2
31	ND	ND	100	0.0
Mean ± SD	0.4 ± 0.6	1.7 ± 1.1	0.1 ± 0.2	97.9 ± 1.5